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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,756	07/30/2003	Takayuki Hattori	2927-0152P	6804
2292 7590 01/04/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER SERGENT, RABON A	
			ART UNIT	PAPER NUMBER
			1796	
			NOTIFICATION DATE	DELIVERY MODE
			01/04/2008	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

## Office Action Summary

### Application No.

10/629,756

### Applicant(s)

HATTORI ET AL.

### Examiner

Rabon Sergent

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,7,8,11-17,20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,7,8,11-17,20 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on July 30, 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 18, 2007 has been entered.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 2, 7, 8, and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vreeland et al. ('001 or '457) or Gloyer et al. ('576), each in view of Barksby et al. ('445) and Knobel et al. ('669) and further in view of Wen et al. ('897 or '639) or Sandlin et al. ('451) or Noh et al. (US 2002/0042002 A1) and further in view of Eichorst et al. ('630) or Christian et al. ('287).

The primary references disclose rollers comprising an electrically conductive polyurethane coating, wherein the polyurethane is derived from a polyol free of unsaturation and contains a conductivity or charge control agent, such as an organometallic salt. The references further disclose the use of such rollers in electrophotographic equipment. See abstract; column 7, line 49; and column 10, lines 14-25 within Vreeland et al. ('001). See abstract; column 9, line 51; and column 12, lines 6-17 within Vreeland et al. ('457). See abstract and paragraphs [0054] and [0077] within Gloyer et al. Vreeland et al. ('001) (at column 10, lines 14-24) and Vreeland et al. ('457) (at column 12, lines 6-17) recite stoichiometric ratios for the reactants that satisfy those claimed. Furthermore, Gloyer et al. specifically recite equivalent ratios that meet applicants' claimed index value. See paragraphs [0010], [0015], and [0020] within Gloyer et al.

4. While the primary references disclose that the polyol reactant is free of unsaturation, the references fail to specifically recite applicants' claimed polyether polyol having the claimed degree of unsaturation. However, applicants' claimed low unsaturated polyether polyol was a known component for polyurethane elastomers having physical properties especially adapted for use in the manufacture of rollers. This position is supported by the teachings of Barksby et al. See abstract; column 6, lines 6-14; and column 7, lines 44+ within Barksby et al. Additionally, while the primary references are silent regarding applicants' specifically claimed fluoroalkyl sulfonic acid salt and imide salt, these salts were specifically known at the time of invention to be useful for promoting electrical conductivity in polyurethanes. Knobel discloses applicants' claimed fluoroalkyl sulfonic acid salt at column 7, line 26 through column 8, line 65. Wen et al., Sandlin et al., and Noh et al. disclose applicants' claimed imide salt. See abstract; column 3, line 22; and column 4, line 63 within Wen et al. ('897). See abstract and column 2, line 33 within

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Wen et al. ('639). See abstract and Examples within Sandlin et al. See abstract and paragraph [0049] within Noh et al. (It is noted that Noh et al. improperly indicates that the imide compound is an amide; however, the correct identity of the compound would be immediately evident to the skilled artisan in view of the use of the art recognized abbreviation, LiTFSI.). Lastly, while the primary references fail to disclose applicants' claimed hydrotalcite or zeolite component, the position is taken that the incorporation of these materials into electrically conductive polyurethanes was known at the time of invention. This position is supported by the teachings of Eichorst et al. and Christian et al.; these references each disclose the incorporation of such materials into electrically conductive polyurethane. See column 10, lines 25+ within Eichorst et al. See column 8, lines 5+ within Christian et al.

5. Therefore, since applicants' claimed low unsaturation polyether polyol was known to be useful for producing rollers having improved properties and since applicants' claimed salts were known conductivity agents for polyurethanes and since additives, such as zeolites, were known additives for electrically conductive polyurethanes, the position is taken that it would have been obvious to incorporate these components within the electrically conductive polyurethanes of the primary references, so as to obtain a composition and roller having the improved properties disclosed by the secondary references. This position is bolstered by the fact that it has been held that it is *prima facie* obvious to utilize a known compound for its known function. *In re Linder*, 173 USPQ 356. *In re Dial et al.*, 140 USPQ 244.

6. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vreeland et al. ('001 or '457) or Gloyer et al. ('576), each in view of Barksby et al. ('445) and

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further in view of Wen et al. ('897 or '639) or Sandlin et al. ('451) or Noh et al. (US 2002/0042002 A1).

The primary references disclose rollers comprising an electrically conductive polyurethane coating, wherein the polyurethane is derived from a polyol free of unsaturation and contains a conductivity or charge control agent, such as an organometallic salt. The references further disclose the use of such rollers in electrophotographic equipment. See abstract; column 7, line 49; and column 10, lines 14-25 within Vreeland et al. ('001). See abstract; column 9, line 51; and column 12, lines 6-17 within Vreeland et al. ('457). See abstract and paragraphs [0054] and [0077] within Gloyer et al. Vreeland et al. ('001) (at column 10, lines 14-24) and Vreeland et al. ('457) (at column 12, lines 6-17) recite stoichiometric ratios for the reactants that satisfy those claimed. Furthermore, Gloyer et al. specifically recite equivalent ratios that meet applicants' claimed index value. See paragraphs [0010], [0015], and [0020] within Gloyer et al. Lastly, it is noted that Vreeland et al. specifically disclose that the starting materials used to produce the polyurethane elastomers may be added together, reacted, and cured in a "one-shot" method. See column 12, lines 18-30 within Vreeland et al. ('457). See column 10, lines 25-43 within Vreeland et al. ('001). It is further noted that each of the primary references disclose that the charge control agents may be blended with a polyol component.

7. While the primary references disclose that the polyol reactant is free of unsaturation, the references fail to specifically recite applicants' claimed polyether polyol having the claimed degree of unsaturation. However, applicants' claimed low unsaturated polyether polyol was a known component for polyurethane elastomers having physical properties especially adapted for use in the manufacture of rollers. This position is supported by the teachings of Barksby et al.

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See abstract; column 6, lines 6-14; and column 7, lines 44+ within Barksby et al. Furthermore, applicants' claimed imide salt was specifically known at the time of invention to be useful for promoting electrical conductivity in polyurethanes. See abstract; column 3, line 22; and column 4, line 63 within Wen et al. ('897). See abstract and column 2, line 33 within Wen et al. ('639). See abstract and Examples within Sandlin et al. See abstract and paragraph [0049] within Noh et al. (It is noted that Noh et al. improperly indicates that the imide compound is an amide; however, the correct identity of the compound would be immediately evident to the skilled artisan in view of the use of the art recognized abbreviation, LiTFSI.).

8. Therefore, since applicants' claimed low unsaturation polyether polyol was known to be useful for producing rollers having improved properties and since applicants' claimed salts were known conductivity agents for polyurethanes, the position is taken that it would have been obvious to incorporate these components within the electrically conductive polyurethanes of the primary references, so as to obtain a composition and roller having the improved properties disclosed by the secondary references. This position is bolstered by the fact that it has been held that it is *prima facie* obvious to utilize a known compound for its known function. *In re Linder*, 173 USPQ 356. *In re Dial et al.*, 140 USPQ 244. Lastly, in view of the disclosure within Vreeland et al. that a "one-shot" method may be employed to produce the polyurethane and in view of the fact that processing polyurethanes by other than the prepolymer method has long been known, the position is taken that it would have been obvious to one of ordinary skill in the art to mix the claimed components in virtually any order or sequence, including a mixing sequence wherein the polyisocyanate is introduced last into the reactant mixture, such that a reactive composition yielding the polyurethane is obtained. It is noted that it has been held that

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the selection of any order of mixing ingredients is *prima facie* obvious. *In re Gibson*, 39 F.2d 975, 5 USPQ 230 (CCPA 1930). Similarly, it has been held that the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results. *In re Burhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946).

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vreeland et al. ('001 or '457) or Gloyer et al. ('576), each in view of Barksby et al. ('445) and Knobel et al. ('669) and further in view of Wen et al. ('897 or '639) or Sandlin et al. ('451) or Noh et al. (US 2002/0042002 A1) and further in view of Eichorst et al. ('630) or Christian et al. ('287). as applied to claims 1, 2, 7, 8, and 12-17 above, and further in view of Nogami et al. ('646) or Priebe et al. ('188).

As aforementioned, the teachings of Vreeland et al. ('001 or '457) or Gloyer et al. ('576), each in view of Barksby et al. ('445) and further in view of Wen et al. ('897 or '639) or Sandlin et al. ('451) or Noh et al. (US 2002/0042002 A1) and further in view of Eichorst et al. ('630) or Christian et al. ('287) are considered to render applicants' composition and roller *prima facie* obvious; however, these references are silent regarding applicants' plasma treatment of the metal shaft. Still, the treatment of metal with plasma to improve its adhesion to other layers, including polymers, was known at the time of invention. See column 10, lines 4-10 within Nogami et al. See abstract and column 2, lines 20+ within Priebe et al. Therefore, the position is taken that it would have been *prima facie* obvious to plasma treat the metal shaft of the roller prior to application of the elastomer, so as to improve the adhesion of the elastomer to the metal surface and the durability of the resulting roller.



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10. Applicants' amendment and arguments of October 18, 2007 have been considered; however, the response is insufficient to overcome the prior art rejections. Initially, it is noted that the prior art rejections have been modified in response to applicants' amendments. Additionally, the position is taken that applicants' arguments fail to appreciate the combined teachings of the references. Applicants' arguments further fail to appreciate that each of the secondary references is drawn to the production of rollers or electrically conductive polyurethanes; accordingly, the primary and secondary references constitute analogous art. Furthermore, applicants' argued examples have been considered for showings adequate to rebut the *prima facie* case of obviousness; however, the argued examples are deficient for the following reasons. Firstly, applicants' examples of the invention are not commensurate in scope with the claims in terms of species of components or quantities of components. For example, the polyol and isocyanate species of the examples are of a far more narrow scope than those claimed. It has been held that the claims must be commensurate in scope with any showing of unexpected results. *In re Greenfield*, 197 USPQ 227. It has further been held that a limited showing of criticality is insufficient to support a broadly claimed range. *In re Lemin*, 161 USPQ 288. Secondly, it is by no means clear that the comparative examples are representative of the closest available art (i.e.; the relied upon art). For example, the primary references specify that polyols free of unsaturation are utilized; therefore, it is unclear that applicants' comparative examples 1-3 are representative of these teachings. Furthermore, due to their composition, comparative examples 4-6 are not representative of the teachings of the primary references. Therefore, the examples are inadequate to rebut the *prima facie* case of obviousness.

Any inquiry concerning this communication should be directed to R. Sergent at telephone


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number (571) 272-1079.

R. Sergeant  
December 28, 2007

  
**RABON SERGENT**  
**PRIMARY EXAMINER**